

Mr. Chase offered some additional evidence of the contrast between European and American rainfalls; and communicated some American peculiarities in the relations of barometric pressure of winds and storms. (See below.)

Pending nominations Nos. 669, 670, and new nomination 671, were read.

Mr. Chase made a communication on the subject of providing suitable accommodations for the observations of the Signal Service Bureau, which was referred to the Curators and Hall Committee, with power to act.

And the meeting was adjourned.

European and American Rain-falls.

BY PLINY EARLE CHASE.

(*Read before the American Philosophical Society, March 3, 1871.*)

There is still a lingering skepticism on the part of some meteorologists, regarding the moon's influence on the weather, a skepticism which is perhaps owing to the apparent want of agreement between observations at different places. There is, however, no good reason for expecting such accurate correspondence as is sometimes deemed essential. Dr. Emerson (Proc. A. P. S., XI. 518) has communicated to the Society his early observation upon the reversal of the European barometric prognostics on this side of the Atlantic. Mr. Blodget (Climatology, pp. 221-237) has pointed out various climatologic contrasts, and Mr. Scott, the Director of the British Meteorological Office, has noticed an opposition between the solar (or temperature) rain-falls in Western Europe and Eastern America, analogous to that which I have indicated in the lunar rain-falls. The confirmation thus afforded to the results of my previous investigations, strengthens the presumption that, in our Atlantic States, signs of fair weather may be most confidently trusted during the ten days preceding, signs of rain during the eight days following, full moon.

In order to make a comparison between stations of similar latitude, I obtained from the "Observatorio do Infante D. Luiz," a record of the quarterly rains at Lisbon for sixteen years, which I have embodied, to-

gether with the observations at Pennsylvania Hospital for the same period, in the following tables. The measurements are given in millimetres.

I.—QUARTERLY RAIN-FALL AT LISBON.

YEARS.	WINTER.	SPRING.	SUMMER.	AUTUMN.	TOTAL.
1855	280.3	272.7	15.4	362.5	930.9
1856	513.4	300.7	8.5	90.3	912.9
1857	267.8	152.2	67.9	324.4	812.3
1858	224.2	113.2	7.1	567.6	912.1
1859	128.0	201.8	71.6	306.9	708.3
1860	210.9	122.4	39.6	187.3	560.2
1861	501.5	154.3	14.6	311.4	981.8
1862	364.4	282.9	6.6	176.9	830.8
1863	181.8	196.6	64.8	101.6	544.7
1864	155.3	282.2	33.9	363.5	834.9
1865	371.6	159.2	24.4	487.2	1042.4
1866	214.7	365.3	14.6	82.3	676.9
1867	197.2	216.2	13.6	172.1	599.1
1868	162.9	76.9	38.0	279.4	557.2
1869	323.2	158.5	3.1	66.0	550.9
1870	305.7	111.6	21.9	160.3	599.5
Mean	275.2	197.9	27.9	252.5	753.4

II.—QUARTERLY RAIN-FALL AT PHILADELPHIA.

YEARS.	WINTER.	SPRING.	SUMMER.	AUTUMN.	TOTAL.
1855	193.0	169.9	435.4	257.8	1056.1
1856	284.5	211.8	241.3	187.5	925.1
1857	184.4	359.9	482.6	133.4	1160.3
1858	264.9	272.8	274.1	227.1	1038.9
1859	376.7	376.9	376.4	371.6	1501.6
1860	240.3	229.6	311.7	342.9	1124.5
1861	269.8	362.5	243.3	332.0	1207.6
1862	292.6	254.5	263.1	343.9	1154.1
1863	280.7	442.0	297.4	153.4	1173.5
1864	174.8	448.3	204.2	327.9	1155.3
1865	370.1	374.7	291.9	380.3	1416.9
1866	390.4	247.9	194.6	370.9	1203.8
1867	230.1	370.6	742.5	228.1	1571.3
1868	225.3	401.3	268.0	404.6	1299.2
1869	318.5	296.2	247.7	337.8	1200.2
1870	297.7	404.9	303.8	195.8	1202.2
Mean	274.6	326.5	323.6	287.2	1211.9

It appears, therefore, that the heaviest rain-falls at Lisbon and the lightest at Philadelphia, are usually in the Autumn and Winter semester the heaviest at Philadelphia and the lightest at Lisbon, in the Spring and Summer. In ten years out of the sixteen, when the rain-fall of the entire year was above the average at one station, it was below the average at the other.